ABSTRACT OF THE DISCLOSURE

A device for noninvasive measurement of blood pressure, in particular for continuous monitoring of blood pressure for an ambulatory patient. This device includes at least one sensor, placed on the thoracic wall of a patient, that is able to transform the acoustic signals generated by the closing of the cardiac valves and transmitted through the thorax into an electronic phonocardiographic signal. The phonocardiographic signal is processed to discriminate and extract a vibratory profile (18) related to the cardiac noise periodically produced at the end of the systole. At least one predetermined parameter of the vibratory profile is analyzed, in particular the amplitude (20) separating the extrema from the signal, and according to this parameter, a value of the phono-arterial index representative of the blood pressure is delivered.